



The ILLINOIS ENGINEER

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Affiliated with the National Society of Professional Engineers

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JUNE, 1952

I hold every man a debtor to his profession; from the which as men of course do seek to receive countenance and profit, so ought they of duty to endeavor themselves by way of amends to be a help and ornament thereunto.

Sir Francis Bacon

THE ILLINOIS ENGINEER—THIS MONTH

That summer is here again is evident in many ways, one of them being that the self-cover issues of the ILLINOIS ENGINEER begin with this, the June issue. For many years the magazine was published in eight numbers from October through May. Since 1946 however, the Society's publication has been issued monthly throughout the year, the four months, June through September, being self-covered as exemplified by this copy.

The self-covers result from a need for economy. In a further effort to keep the cost of the magazine within the amount allowed for it in the Society's annual budget, the number of pages printed during the summer months are, also, kept as few as possible and still keep the membership informed concerning current events in the Society and in the profession.

W. A. OLIVER, Editor

MESSAGE FROM THE JUNIOR REPRESENTATIVE

Almost all chapters have now elected Junior Representatives. Each of you, as Student, Junior, and E-I-T members, should become acquainted with your own Chapter Representative. Let him help you get acquainted with other young engineers. Discuss with him your ideas pertaining to state and chapter problems. Help him attain our part of the membership goal for this year: 13 per cent of all new chapter members should be students or E-I-T's. Your Junior Representative can be only as good as you make him.

Application for Student and E-I-T membership is increasing and will continue to increase as the year goes on. Keep these men's interest alive and invite them to all of your meetings until they are full-fledged members. Remember, too, don't overlook engineers in fields other than your own. All engineers, regardless of their position, can benefit from our Society. We can benefit from them. Also, don't forget to keep these new members coming to meetings and participating in all your activities. A satisfied customer usually returns and possibly will bring a friend with him.

J. L. MILLS

PRESIDENT'S MESSAGE

Next September engineers from all over the world will meet in Chicago to attend the greatest conclave the engineering profession has ever held. The occasion is the 100th birthday of the American Society of Civil Engineers. How the founders of A.S.C.E. would gasp in amazement if they could return to earth and review the many organizations which have grown out of the technical society they launched a century ago! Nearly every engineering organization will be represented, and it will be a truly great and awe-inspiring celebration. And how far afield will be the discussions—yes, a far cry from the technical problems which brought the engineers into an organized society in 1852.

It is a fascinating story—this tale of engineering development. It is a story of a century of technological advances which have changed the concepts of civilization—a story which has been climaxed by the achievements of the last decade. Perhaps the story of the last decade does not rightfully belong with that of the first century of engineering work—perhaps it actually belongs as a prologue to the story of the second century, for culminating in the period from 1942 to 1952 were developments which have moved civilization from the mechanical age to the electronic age, or perhaps more properly, the beginning of the age of nuclear power. It has been a decade in which tremendous technological advances were made in fields as yet unexplored ten years ago, and of major developments in supposedly long established and well perfected machines and equipment. Whether we tie it to the first century as a climax, or whether we classify it a prologue to the second hundred years is really immaterial, for it is a period of which all engineers may justly be proud.

In preparing for this huge birthday party the organizers and planners have spent much time and effort, and the world will know about the engineer when it is finished. There will be pageants and displays, there will be world famous men as speakers, and there will be many meetings about weighty matters in technical group discussions. September 5 is the day the Illinois Society will meet jointly with the National Society, and there will be an evening banquet with a famous speaker at the Sherman Hotel. It is hoped that each Chapter will be well represented, and your state officers urge that you start planning now to attend. See your Chapter Representative for banquet tickets!

SUBSCRIPTION RATES

\$2.00 per year in advance to members of the Illinois Society of Professional Engineers, \$4.00 per year in advance to non-members in U.S.A. and its possessions, Canada, and Mexico. Foreign \$6.00. Single copies 40c.

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Out of this huge affair we may expect much publicity, but perhaps more important is the hope that such a co-operative venture will plant the seeds of engineering unification. Years of talk and study through various channels have made no great headway. Perhaps actually cooperating in such a great venture will speed the process.

As we approach the Engineering Centennial let us be proud of past accomplishments, but let us also be aware that our second century of technical progress is considerably more challenging than the one we are terminating. Our professional stature is not as great as our technical standing, and we must close the gap with rapidity. We of the Illinois Society of Professional Engineers must not relax our efforts, but must re-double them and look not at the past but to the future.

President's Datebook: Executive Committee met in Champaign May 3 to handle matters requiring attention. Noted with much satisfaction that State Committees were beginning to function most admirably. Regard committees as the lifeblood of the Society.

Nothing else in May up to time of writing but have accepted invitation to visit Central Illinois Chapter in Decatur May 22. More about that later. Still hoping for invitation from all chapters.

A. D. SPICER, *President, I.S.P.E.*

VOX SECRETARII

P. E. ROBERTS, *Assistant Secretary*

Cost of Living Price Index

The Recommended Schedule of Minimum Fees and Salaries of the Illinois Society is adjusted to the U. S. Bureau of Labor Cost of Living monthly index. This index is based on an all-items average over the period 1935-39. The specific data in the book is based on the price index of January, 1941, which was 100.8. Therefore, to adjust the dollar value in the Minimum Fees and Salaries book to March, 1952, multiply the dollar value

shown in the book by $\frac{188.6}{100.8}$.

The Cost of Living Index has been published each month in the ILLINOIS ENGINEER since 1947. Since there was marked interest shown at the 67th Annual Meeting in the fees and salaries question, it may be of interest to study the Index figures for the past five years.

UNITED STATES DEPARTMENT OF LABOR BUREAU OF LABOR COST OF LIVING PRICE INDEX						
	1947	1948	1949	1950	1951	1952
January	152.0	167.5	170.9	166.9	181.6	190.2
February	152.0	166.2	169.0	166.5	184.2	188.3
March	155.1	165.7	169.5	167.3	184.5	188.6
April	154.8	167.9	169.7	167.3	184.5	
May	154.6	169.1	169.2	168.6	184.4	
June	154.6	170.3	169.6	170.2	184.5	
July	155.8	173.7	168.5	173.5	185.5	
August	159.0	174.5	168.8	173.0	185.5	
September	159.4	174.5	169.6	173.3	186.5	
October	159.8	173.6	168.5	174.8	187.8	
November	163.6	172.2	168.6	175.6	189.3	
December	165.7	171.4	167.5	178.4	190.3	

In the five-year period, the index has gone from a low of 152.0 in January, 1947, to a high of 174.5 in August, 1948, or a rise of 22.5 points in 20 months. Then the index reversed to slip from a high of 174.5 to a low of 166.5 in the next 18 months. From that low point, there was a rise to 190.3 or 23.8 points in a 22-month period which either ended or leveled off in December, 1951. Since that time the index has been lower three months in succession with only a slight rise of 0.3 point in March, 1952, the last figure available.

It is interesting to note that the high and low spots do not follow the calendar, that is, the 1947 low was in January to a high in August, 1948, and down to a low in February in 1950 and to a high in December, 1951.

With the present rate of government and defense spending, it is difficult to believe that the index figures will stay on the present plateau or drop for the next 15 to 20 months. However, prices have begun to drop from the high of December, 1951, and will probably level off for several months rather than drop. Since 1952 is a Presidential election year, prices will move nervously both up and down; also some shortages caused by recent labor strikes should have the effect of increasing the index price. The increase of 90 points in the index figure is not too alarming when the period is pre-war, war, post-war, and more war as it was from 1940 through 1951.

Any predictions as to the probable movement of the price index would be a pure guess. There are two things which are unknown—when the price index will drop and how much it will go down. The one thing which is known is that prices will eventually drop and sharply.

COST OF LIVING INDEX

The correction factor to be applied to the I. S. P. E. Schedule of Minimum Fees and Salaries was 189.6 for April, 1952. The factor is based upon the U. S. Department of Labor's most recent Consumer Price Index.

DR. G. E. EKBLAW

Dr. George E. Ekblaw, Past President of the Illinois Society of Professional Engineers was elected President of the Illinois Academy of Science on Friday, May 2. This new honor comes to Dr. Ekblaw as a well-earned reward for long service to the Academy.

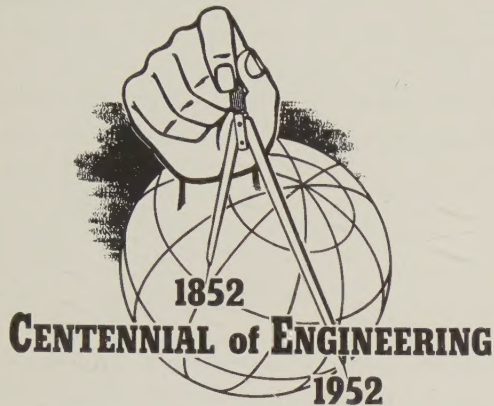
I.S.P.E. EXECUTIVE COMMITTEE MEETS

The Society's Executive Committee met on Saturday, May 2, at Society headquarters, 631 East Green Street, Champaign. The Executive Committee which is appointed by the Board of Direction, handles routine Society business during the periods between State Board meetings and is responsible to the Board for any action it takes.

Since it was first established about eight years ago, the Board has seen fit to appoint to the Committee, the President, the Vice President, the Secretary-Treasurer, and the Editor of the ILLINOIS ENGINEER.

Mr. J. J. Woltman Dies

Mr. Woltmann, long time member of the Illinois Society of Professional Engineers, died on May 2nd, last. A more detailed obituary will be published at a later date.



Stating that America's colleges and technical schools are preparing only about half as many trained engineers as the country needs, Lenox R. Lohr stated that one of the main objectives of the Centennial of Engineering, to be celebrated in Chicago later this year, will be to inspire more young men and women to take up engineering as a career.

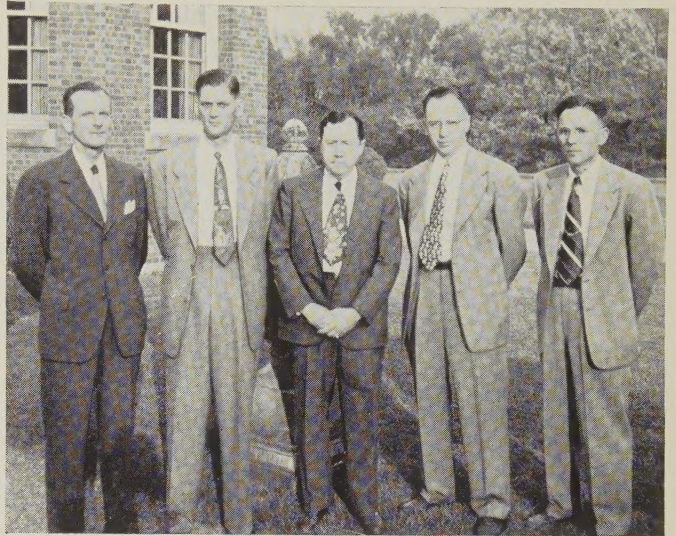
Lohr, who is president of the world-known Museum of Science and Industry and who previously headed the National Broadcasting Company is the Centennial's president. Serving with him as Centennial directors are such figures as Herbert Hoover and Charles F. Kettering, research wizard of the General Motors Corporation.

"Due to unfortunate prophecies a few years ago that there would be an over-supply of engineers, student enrollment has dropped alarmingly below what we need to maintain the pace of our American industry," Lohr said. "Conservative estimates indicate the requirements of industry in 1954 will be at least 32,000 new engineering graduates, with 64,000 needed in 1960. Yet the U. S. Office of Education reports that only 17,000 will come out of 1954 classes; while the Engineering Manpower Commission makes the more pessimistic prediction that the collegiate output that year will not total 12,400 engineering graduates.

The engineer is the backbone of mass production, for the number of units is so large that every step of manufacture must be engineered to save a fraction of a cent here and save a second of time there, Lohr explained. This evolution from the small shop to the great plants of today has occurred in the last fifty years, and with it the greater need of technical guidance, he added.

In 1900 there was one engineer to 290 industrial workers; in 1950 it was one to 70. During the last 60 years the number of engineers has increased from 25,000 to 400,000, with possibility that the demand may be doubled in another ten years.

LADIES' NIGHT—CHAMPAIGN COUNTY CHAPTER



New Chapter Officers, left to right—W. J. Roberts, President; J. L. Mills, Junior Representative; W. D. Mitchell, Chapter Representative; J. C. Dietz, Immediate Past President; B. F. Muirheid, Vice President. C. D. Greffe, Secretary-Treasurer, is not in the picture.



Left to right, front row—Mrs. P. E. Roberts, Mrs. H. E. Babbitt, Mrs. B. F. Muirheid. Back row—Mrs. G. E. Ekblaw, Mrs. L. C. Auby, Mrs. J. H. Morgan.



Left to right—Mr. and Mrs. H. L. Medbury, Speakers of the evening; Mr. and Mrs. D. C. Greffe. Professor Greffe, Secretary-Treasurer of the Chapter, was Program Chairman.

CHICAGO CHAPTER NEWS...

Illinois Society of Professional Engineers — Affiliated with the National Society of Professional Engineers

Editor—H. F. Sommerschild

53 W. Jackson Blvd.

Room 1202—Chicago 4, Illinois . . . Tel.: HArrison 7-3383

New Members

We extend a hearty welcome to the following new members of I.S.P.E. and trust that each will take an active interest in Chicago Chapter activities.

Albert J. Fox
Marshall C. Magnuson
Anthony A. Antoniou
Charles Rogers Shupe

Centennial Banquet

Plans for the I.S.P.E. Banquet to be held Friday, September 5, during the Centennial of Engineering Celebration are well on the way. The most recent development indicates that Mr. Erik Johnston, presently a member of the International Development Advisory Board, will be the speaker of the evening. Mr. Johnston is also well known for his activity as Czar of the Movie Industry and as President of the United States Chamber of Commerce. John Dolio will gladly furnish tickets upon request.

Engineering-Management Communications

The National Society of Professional Engineers recently released a 48-page report of the survey made on Engineering Management Communications.

This report disclosed the results of a nation-wide survey of 350 industrial organizations employing over 50,000 engineers. It is estimated that 60 per cent of the potential managerial talent of professional engineers is being lost to industry today. This report presents a program to improve the Engineering Management relationship.

Every member of our Society should see to it that a copy of this brochure reaches the desk of top management in his organization. Copies of the report can be obtained directly from NSPE headquarters or through the Chapter Secretary.

News of Our Members

John G. Duba was recently elected as a Director of the Hydraulics Sanitary and Municipal Engineering Division of the Western Society of Engineers for a three-year term.

George DeMent attended the Annual Meeting of NSPE in Tulsa, Oklahoma, June 5-7 as National Director from I.S.P.E.

Theodore W. VanZelst was elected as a Director of the Bridge and Structural Engineering Section of W.S.E. also for a three-year term.

Hal Sommerschild had a unique opportunity recently when asked to speak to the Student Chapter of A.S.C.E. at Northwestern University. Why was it unique? The subject requested was "What problems will we encounter when we graduate and enter practice in our profession and what shall we do to prepare to meet these problems?" Can you conceive of a better subject for a member of N.S.P.E. to use to expoint the philosophy of our society?

President Edwards

As General Manager of Centennial of Engineering 1952, Inc., President Edwards has been kept on the go with speaking engagements. He has appeared before the Society of Automotive Engineers in Chicago, Lake County Chapter I.S.P.E. in Waukegan, District 7 Conference A.S.C.E. in Milwaukee and Founder Societies and Structural Engineers of Southern California in Los Angeles, within the last month.

Questionnaire

	Yes	No
1. Did you attend the last Chicago Chapter Meeting?	<input type="checkbox"/>	<input type="checkbox"/>
2. Have you obtained one new member since Jan. 1?	<input type="checkbox"/>	<input type="checkbox"/>
3. Did you attend the Annual Meeting of I.S.P.E.?	<input type="checkbox"/>	<input type="checkbox"/>
4. Have you read the new manual of N.S.P.E. on Engineering Management Communications?	<input type="checkbox"/>	<input type="checkbox"/>

Affirmative reply to these questions will indicate that you are a good member of I.S.P.E.

Meeting Thursday April 10.

Our Chapter meeting was attended by over 40 members who heard Captain Joseph E. O'Bryan speak on the subject "Low Temperature Operation of Aircraft." Mr. O'Bryan is connected with the Climatic Projects Section of Wright Air Development Center at Dayton, Ohio.

He spoke regarding both internal combustion and jet engines and the problems encountered in cold weather operation. A movie of the "Arctic Icing Research Project" was also shown.

If you have not attended recent meetings, speak to someone who has. They will attest to the high quality of our programs.

President's Message

An Engineering Society is a voluntary association of engineers formed to provide some type of service. The National Society of Professional Engineers and its state affiliates have been formed to advance public welfare and promote the professional, social, and economical interests of the engineer.

Volumes could be written on the exact meaning of these terms and the methods for accomplishing desirable results. It is the purpose here to emphasize that voluntary effort is needed to make advancement possible. This effort is exerted through the usual organizational plan comprising officers and committees but the development of a plan, election of the officers and appointment of committees do not in themselves produce effort or accomplish results.

Only through voluntary effort can worthwhile accomplishments be reached. Do not wait for the other engineer to make the contributions. Pitch in yourself.

F. W. EDWARDS

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ST. CLAIR CHAPTER HOLDS INTERESTING MEETINGS

Sixty-two members attended a meeting held Friday, April 18, 1952, at the Elks Club, 11 West Lincoln Street, Belleville. Frank N. Barker, chief engineer of the Illinois Highway Division, was the speaker.

Barker discussed the need for more engineering students. He pointed out that, in 1950, 53,000 engineers graduated from schools throughout the country. In 1951, 38,000 engineering students graduated with an estimated 50 per cent of them entering military service. This year 26,000 will be graduated and 55 per cent will go into military service.

Fred Meek, engineer for the American Zinc Company and president of the chapter, presided at the meeting. The session was sponsored by Fred R. Friedewald, a consulting engineer at Belleville.

Before adjourning the chapter adopted resolutions honoring the late Emmett P. Griffin, East St. Louis park superintendent and chapter member for 20 years, and the late Steve Butler, a retired professional engineer and 25-year chapter member.

Attending the meeting were Jess Gary, chief highway engineer at the French Village district; Frank Robison, president of the East St. Louis Chamber of Commerce; Ralph Bartelsmeyer and C. F. Manion, Jr., superintendent and assistant superintendent of the county highway department.

The chapter members heard a report from Raymond G. Brichler of Belleville, assistant chief engineer for the Alton and Southern railroad, on the 67th annual convention of the state organization held at Peoria last April 3, 4, and 5. Brichler was elected and installed vice president of the state society during the convention.

BY THE WAY

Wisdom is made up of ten parts, nine of which are silence, and the tenth, brevity.

The question for each one to settle is not what he would do if he had means, time, influence, and educational advantages, but what he will do with the things he has.—Hamilton Wright Mabie.

Engineering Societies Personnel Service, Inc.

New York Chicago Detroit San Francisco
84 East Randolph Street, Chicago 1, Ill. STate 2-2748

These items are from information furnished by the Engineering Societies Personnel Service, Inc., Chicago. This SERVICE is operated on a co-operative non-profit basis by the Illinois Society of Professional Engineers, and the national societies of Civil, Electrical, Mechanical and Mining and Metallurgical Engineers. Apply to ESPS, Chicago and the key number indicated. Prepared ENGINEERS AVAILABLE advertisements limited to 40 words, with typed resumé attached may be submitted to ESPS Chicago by members of the Illinois Society of Professional Engineers at no charge.

If placed in a position as a result of an Engineers Available or Position Available advertisement, applicants agree to pay the established placement fee. These rates are available on request and are sufficient to maintain an effective non-profit personnel service. A weekly bulletin of positions open is available to subscribers. Apply E. S. P. S., Chicago.

After checking our files, we find we have about 12% of the opportunities currently open will pay salaries over \$8,000 year. This does not include those that show the salary as open. The employers are paying or negotiating the fees on better than 70% of all openings being currently listed with the Chicago office of E.S.P.S. and we believe you should seriously consider seeing what we have.

Our applicants file has some of the best engineering talent available to the employers and your openings should be listed with us to get the best men possible.

ENGINEERS AVAILABLE

Chief of Time Study. 51. Twelve and one half yrs. in complete charge of time study and methods, preparing estimates and quotations from prints and methods for production. One yr. General Supt. in complete charge of plant, prod. costs, purchasing, & development. Two yrs. General Purchasing Agent, purchasing raw materials and finished parts. Midwest. 340. \$6000. PE.

Draftsman. 62. Nine yrs. and nine mos. draftsman. Drafting surveys, sewer, water, parks, playgrounds, surveys municipal, track and yard layout, R. R. maintenance, mapping for pipe R. of Way. Chicago. \$3500. 341. PE.

Instructor, Arch. 59. Eleven yrs. and nine mos. teaching architectural drafting and design, mechanical and architectural drawing. Descriptive geometry, structural steel drafting. Three and one half yrs. arch. draftsman, on various types of R. R. buildings and structures, and gasoline stations. Midwest. \$4800. 342. PE.

Plant Engineer, M.E. 27. Eleven mos. detailing of designs for pressure casing on large power plants, central stations boilers. Three mos. plant layout, measuring up machinery in shops, make layouts of departments in new plants. Six mos., operation & development engr., maintaining tire cord treating unit. Design and build paper coating and fabric laminating machine. Ten yrs. working in machine shops and job shops. Operate both production and tool room machine tools. Chicago \$4600. 343. PE.

Designing Engineer. Ph.D. ME. 35. Six yrs. Assistant Engineer. General training in all places; shift engineer in machine shop, foundry engineer, dyehouse and air-conditioning eng. Five mos. Teaching production methods, thermodynamics, heat transfer and refrigeration. Chicago. \$4000. 344. PE.

Designer. TV. 29. Four mos. Sales Engineer, contact customers, explain operation of various instruments. One yr. T. V. Serviceman. Serviced radio and TV sets. \$3900. Midwest. 345. PE.

Electrical Engr. Draftsman. EE. 22. Eleven mos. mechanical engineering draftsman, drawing of details and assemblies from layouts making layouts and designing of new parts, making revisions and changes in old parts, checking prints, worked in artillery and rocket launcher sections. Chicago. \$3800. 346. PE.

Patent Engineer. ME and LLB. 28. Eight yrs. Estimating cost of steel construction and fabrication, also field erection. Projects include petroleum storage tanks, pressure vessels, refinery towers, industrial dryers and process equipment. Previously in drafting room as layout man for five yrs. \$6600. Chicago. 347. PE.

Consultant. CE. 56. Two and one half yrs. Supt. Supervising const., housing project, hospitals, also specifications. Six mos. Consultant. Collect, analyse and evaluate data and write reports. Five yrs. West. Rep. to contact mfrs. in metal work and chemicals and design special equip. for heat and corrosion resistance. Three and one-half yrs. Ch. Eng. Design and superv. use of special steel forms. Midwest. \$7500. 348. PE.

POSITIONS AVAILABLE

Architectural Draftsman. Age: up to 50. 5-10 years experience in architectural work. Duties: Architectural design in general work. Salary: \$5,000 to \$10,000 per year. Location: Chicago. Employer will negotiate fee. R-8891.

Assistant Chief Engineer. Should have degree in M.E. and some training in Electrical Engineering. Must have proved record as successful administrator and be able to supervise large staff of engineers in design and development of aircraft accessories. Candidate must have been in very closely related field. Salary: \$10,000. Location: Southern Michigan. T-8887.

Tool Designer. Age: 25-50. One and one half years experience in tool designing in machine shop. Knowledge of gears helpful. Duties: Designing tools for manufacturer of gears. For a manufacturer of gears. Salary: \$2.00 to \$2.75 per hour. Employer will pay 1/2 of fee. Location: Chicago. R-8886.

Production Process Engineer. Education: Equivalent to college M.E. Age: under 65.

Eight years experience process engineering and tool and die work. Knowledge of piece part-processing. Duties: Determine tooling and sequence of operations necessary for production of jet engine parts or welding processing for same. 14 available openings. For machining or weldments of aircraft engines. Salary: \$409-\$530 plus \$42 cost of living bonus. Location: Chicago. R-8885

Chief Engineer. Age: 35-50. Four plus years experience in plant engineering for food packaging. Knowledge of production line operations. Duties: in charge of all engineering for food packaging equipment such as refrigeration, high pressure steam equipment pumps, blowers, process piping, automatic machinery, cappers, etc. charge of plant engineering and design. For food manufacturer. Salary: \$600 per month. Employer will negotiate fee. Location: Chicago. R-8884.

Designer—Mechanical. Some mechanical engineering training. Ten years experience design of pumps. Duties: Designing of centrifugal pumps. Salary: \$6600 top. Employer will negotiate fee. Location: Iowa. R-8883.

Mechanical Engineer. Standards. Five years plus the experience in mechanical phases of housing projects. Duties: Consulting with other departments on all mechanical phases of housing such as heating, plumbing, etc. Salary: \$6000-\$6400 per year. Location: Chicago. R-8882.

Lighting Equipment Engineer, E. E. or illuminating engineer or equivalent to direct program covering design, manufacture, installation and use of central lighting system for mines. Project requires ability to direct preparation of detailed designs and construction and testing of models. Should have thorough knowledge of Bureau of Mines standards and regulations and some knowledge of underground mining operations. Age: 30-45. Salary: \$10,000-\$12,000. Location: U.S. T-8879 D-7744.

Structural Design, C.E. Age: up to 50. Six years plus experience in structural steel design, preferably bridges. Duties: Designing structural parts for bridges. Salary: \$8,000 to \$10,000. Location: Chicago. R-8878.

Designer-Sanitary, C. E. or Sanitary Graduate. Age: 30 plus. Five years experience in sanitary engineering. Duties: Designer and office engineer on sanitary problems in consulting engineer's office. Opportunity. Salary: \$500 plus. Location: Northern Indiana. R-8877.